## Continue



```
Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit, provide a link to the
license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply
legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation. No warranties are given. The license may not give you all of the permissions
necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Lockheed Martin's legendary Skunk Works® was unorthodox from its start. Conceived in 1943, a lean team tasked with completing America's first jet fighter, the XP-80 Shooting Star, solved a shortage of wartime
space by renting—wait for it—a circus tent, which, alas, could not deter the pungent odor of a neighboring manufacturing plant. The operation was secret, and one engineer chose to answer the phone "Skonk Works," in tribute to a place in the "L'il Abner" comic strip where skunks, old shoes and the like went into a strong—and strong-smelling—
brew. Slightly adapted, the name stuck, to the point where "skunk works" has become shorthand for a small group dedicated to innovation without getting mired in bureaucratic quicksand. The lean organizing precepts developed by founder Clarence "Kelly" Johnson proved definitional. Skunk Works would be honored for the Mach 2 F-104 Starfighter
and the Mach 3 A-12 Oxcart (which evolved into the SR-71 Blackbird), among other accomplishments. Besides such famous manned planes, Skunk Works, formally known as the Advanced Development Programs (ADP), has for nearly six decades pioneered unmanned systems. The D-21 ramjet recond planes, Skunk Works, formally known as the Advanced Development Programs (ADP), has for nearly six decades pioneered unmanned systems.
from the variant of the A-12! More recently, there's been the hand-launched Desert Hawk III and special forces Stalker, as well as the high altitude long endurance RQ-170 Sentinel. Going forward, there's been the hand-launched UAV being developed as part of DARPA's LongShot
competition. Other, clandestine, projects will extend the use of stealth, open architecture, manned/unmanned teaming and persistent ISR. With 19 years at Skunk Works, Jacob Johnson is its current director for intelligence, surveillance and reconnaissance (ISR) and unmanned air system (UAS) programs. Based out of Fort Worth, Texas, he also
directs Lockheed's JADO (Joint All-Domain Operations) Program, which is synchronizing data sources for a full picture of the modern battlespace. Edited for space and clarity, the conversation highlighted the thinking, processes, culture and economics that protect the warfighter and keep Skunk Works positioned on the edge. Much of what we've
done over the years has been a secret. But we're not very secretive about how we do it. Those 14 rules are really still absolutely integral. And a lot of that really dates back to the P-80 program—it was 143 days from contract signing to the airplane flying. One of the nuances that stay with us today is there were only 23 engineers who worked on that
program. So it's that idea that small, independent teams of very capable people can solve difficult problems in a surprisingly short amount of time. Optimal team size and really trying to handpick individuals is one of the keys to solving some of the hardest problems. Persistent ISR - manned and unmanned - is a hallmark of Lockheed Martin Skunk
Works. The Skunk Works matured through the '50s and '60s, with the U-2 and the SR-71 sort of redefining what was possible in terms of ISR collection. Maybe a little bit less well known is that the D-21 reconnaissance drone flew for the first time in 1964. We've quietly worked on unmanned airplanes for more than 57 years now, not only developing
and demonstrating the technologies, but really defining how they should be used. Keeping in mind that really the purpose of UAV is to help save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to put him at risk, we developed conops for how to use UAVs and how they save pilot lives by minimizing the time that we have to use the put him at risk and the put him at ri
what's today being called "manned-unmanned teaming." After the D-21, we went through several other interesting unmanned programs. Those really laid the groundwork to what today we call our family of UAS. And it forms the foundation to how we in the Skunk Works are organized around unmanned vehicles, and how we approach problems. Per
our heritage with Kelly, we're a very customer-focused organization. There is no one single answer to all UAV problems, so this idea of a family of systems or a family of what we do. But tremendous cost savings and time savings can be had through commonality. The X-44
(MANTA) and the (P-175) Polecat are essentially flying wing UAVs, and if you fast forward that for next generation UAS, there's a lot of commonality amongst those airframes. This enables us to really develop and field very cheaply and very quickly derivative airframe designs that are suited to a specific customer. We have a common ground station
architecture. When we think about open mission systems [OMS], it's all built on open standards. This enables us to rapidly integrate best of breed mission systems on my UAVs, I want the best sensors on my UAVs, I want the best sensors on my UAVs, I want the best AI on my UAVs. Built on a
foundation of open mission systems, we can do that very quickly. The other thing OMS really enables is the ability to upgrade. To be able to upgrade to the latest and greatest LPI/LPD [low probability intercept/detection] waveforms through OMS—it's a software upload, and it can take place orders of magnitude quicker than it could on legacy
systems. To get the true benefit, it has to be a very modular model that's built on OMS from the ground up to get this true plug and play capability. Historically, unmanned systems have been used for ISR and strike missions; through OMS and through a lot of the software and hardware advantages, there's a lot of exciting possibility. If you think in an
ABMS [advanced battle management system] context, we can now be using UAV as comms nodes, as BMC2 [battle management command and control] processing stations, as sensor fusion nodes. It really opens up the realm of possibility of what UAVs can be used for. It's always fun to have the Gucci solutions, but if they're not affordable, they tend
to be less useful and less proliferated. By containing all aspects of the airplanes throughout their lifecycles in a common digital environment where we can be interacting with our customers, this is going to enable us to break some of the paradigms we've seen in the past about increasingly complex systems costing the U.S.
DOD increasingly more and more. Decades later, the D-21/A-12 manned/UAV air-launch concept is finding new life through Skunk Works. What we're seeing in the world environment drives a lot of our thinking as well. Recent events in Iran and Yemen, with multiple MQ-9s getting shot down—what used to be considered permissive airspace around
the world has become contested. Specifically in the case of the Houthi rebels, this was a sophisticated military system that was brought down, quite frankly, by a weapons system that was probably designed before I was born. It's going to be increasingly challenging to operate, even in the presence of unsophisticated adversaries. And so, as the Air
Force thinks about this for unmanned vehicle force structure they tend to break into three categories. On the low end, "The Expendables" are up to $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attritable" airplanes have a price range of $2 million. "Attri
what the optimal way is to truly build out a UAV fleet. Sort of the conclusion that we've come to, it's a combination of these high-end survivable, very capable UAVs that really create the optimum force structure. Persistent ISR and other operations within challenging environments will always be a
critical need; there is that need for the very high end survivable, very capable UAS. On the low end, it comes down, really, to the economics. And so when we think about "Attritable" versus "Expendable," what ends up winning out, at least in our analysis, is that it just makes more economical sense to buy larger masses of lower-cost UAVs to go
accomplish that mission. I think now that the Air Force thinking is more a family of systems—that no single airplane can fit the need of all the missions the Air Force on and helping them field systems to meet some of our most
challenging missions going forward. The Stalker offers a long-endurance UAV to Special Forces. It varies in terms of timescale. A lot of programs developed very far-out-there technology that was demonstrated and then put on the shelf—and then taken off the shelf 10 years later and used on a program. At the time, its success might have been in
question; history would reveal that programs like that can be successful. We also have, very much embedded in our existing programs, improvements and derivatives teams looking for very short term [solutions], be they F-35 or C-130. How do we keep them relevant in a modern environment? So, we have these very long term successes, and we also
have very, very short term successes. But there's a flip side to that, which is, we often learn from our failure, learn the lessons from it and then make sure the lessons learned are passed down to really maintain that knowledge
continuity, as we get the next generation of engineers coming into the organization. We try to work in, I guess I'd call it cross-domain teams. JADO [Joint All-Domain Operations] really transcends our entire portfolio as a corporation. When you think about crossing domains from space to air to land to sea to subsea.
that's something we see across our entire corporation. We are involved in many JADO activities and in many ways I think we're leading the corporation to find these joint solutions. It's that idea of cross-domain, but maybe even more broadly, knowing when to
respect tradition and knowing when to throw out tradition and to see things with fresh eyes. That's one of the more exciting things is you get satellite engineers who start looking at submarine problems and come up with some very
innovative creative solutions. And so I think it's a lot of people's willingness to look at things from a different perspective. One of the things I find most rewarding about working in Skunk Works is it's populated by people who talk
about airplanes at lunch, on the weekends, while they're talking with their friends. That foundation of years and years of passion about airplanes are lunch, on the weekends, while they're talking with their friends. That foundation of years and years of passion about airplanes are lunch, on the weekends, while they're talking with their friends. That foundation of years and years of passion about airplanes are lunch, on the weekends, while they're talking with their friends. That foundation of years and years of passion about airplanes are lunch, on the weekends, while they're talking with their friends. That foundation of years and years of passion about airplanes are lunch, on the weekends, while they're talking with their friends.
books that's been written in the last 20 years or so. A specific group within the Skunk Works—the Revolutionary Technologies Organization—looks for disrupted. This idea of open mission systems is going to fundamentally
warfighter. As open systems take hold that changes competition. It's going to drive us all to be delivering better. We've certainly done a lot of it is fueled by advances in machine to machine to machine to machine and artificial intelligence. For several years now, we've been collaborating with a variety of our government
partners to look at what is the optimum way to manage that and go execute that conops. From a technology side, AI is a fantastic tool, and it can do a lot of great things. AI, like all tools, is good for a specific solution. It does certain things very, very well. But I'll say that one of the challenges to the implementation of AI is getting users to trust the AI.
How we've worked around this is with what we call tunable AI. The idea is that real time specific users can either give the AI more or less authority. As you can imagine, when a user first sits down with a system, they turn the dial to the right, so
to speak, and give the AI more and more control over what's going on. They'll be a limit to that: I don't envision a future where computers are making all decisions. We call this concept human on the loop versus human in the loop. But the benefits we see are really quite extraordinary. When we think about, for example, pairing the F-35 with a very
established and with the passion that people bring to work every day. With extremely challenging problems that a lot of people didn't think were solvable, Skunk Works teams tend to find a way to solve them. It's an exciting organization to be a part of. Entrance plaza at the Skunk Works in Palmdale, California There are
conflicting observations about the birth of Skunk Works. Engineer Ben Rich sets the origin as June 1943 in Burbank, California.[4] Kelly Johnson has made contradictory statements, some agreeing with Rich, and others putting the origin earlier, in 1939.[5] The official Lockheed Skunk Works story states: The Air Tactical Service Command (ATSC) of
the Army Air Force met with Lockheed Aircraft Corporation to express its need for a jet fighter. A rapidly growing German jet threat gave Lockheed an opportunity to develop an airframe around the most powerful jet engine that the allied forces had access to, the British Goblin. Lockheed was chosen to develop the jet because of its past interest in jet
development and its previous contracts with the Air Force. One month after the ATSC and Lockheed meeting, the young engineer Clarence L. "Kelly" Johnson and other associate engineers hand delivered the initial XP-80 proposal to the ATSC. Two days later the go-ahead was given to Lockheed to start development and the Skunk Works was born,
with Kelly Johnson at the helm. The formal contract for the XP-80 did not arrive at Lockheed until October 16, 1943; some four months after work had already begun. This would prove to be a common practice within the Skunk Works. Many times a customer would come to the Skunk Works with a request and on a handshake the project would begin,
with no contracts in place, no official submittal process. Kelly Johnson and his Skunk Works team designed and built the XP-80 in only 143 days, seven fewer than was required.[6] Warren M. Bodie, journalist, historian, and Skunk Works variety
were demonstrated earlier when Lockheed was asked by Lieutenant Benjamin S. Kelsey (later air force brigadier general) to build for the United States Army Air Corps a high speed, high altitude fighter to compete with German aircraft. In July 1938, while the rest of Lockheed was busy tooling up to build Hudson reconnaissance bombers to fill a
British contract, a small group of engineers was assigned to fabricate the first prototype of what would become the P-38 Lightning. Kelly Johnson set them apart from the rest of the factory in a walled-off section of one building, off limits to all but those involved directly.[7] Secretly, a number of advanced features were being incorporated into the new
fighter including a significant structural revolution in which the aluminum skin of the aircraft was joggled, fitted and flush-riveted, a design innovation not called for in the army's specification but one that would yield less aerodynamic drag and give greater strength with lower mass. As a result, the XP-38 was the first 400-mph fighter in the world.
The Lightning team was temporarily moved to the 3G Distillery, a smelly former bourbon works where the first YP-38 (constructor's number 2202) was built.[2] Moving from the distillery to a larger building, the stench from a nearby plastic factory was so vile that Irv Culver, one of the engineers, began answering the intra-Lockheed "house" phone
 "Skonk Works, inside man Culver speaking!"[8] In Al Capp's comic strip Li'l Abner, Big Barnsmell's Skonk Works— spelled with an "o"— was where Kickapoo Joy Juice was brewed from skunks, old shoes, kerosene, anvils, and other strange ingredients. When the name leaked out, Lockheed ordered it changed to "Skunk Works" to avoid potential legal
engineer a drop tank system to extend range for the fighter, and they completed the initial research and development without a contract. When the Army Air Forces officially asked for a range extension solution it was ready.[9] The range modifications were performed in Lockheed's Building 304, starting with 100 P-38F models on April 15, 1942.[10]
Some of the group of independent-minded engineers were later involved with the XP-80 project, the prototype of the P-80 Shooting Star. Mary G. Ross, the first Native American female engineer, began working at Lockheed in 1942 on the mathematics of compressibility in high-speed flight[11]—a problem first seriously encountered in the P-38.[12] In
1952, she was invited to join the Skunk Works team.[11] Assembly line of the SR-71 Blackbird at Skunk Works In 1955, the Skunk Works received a contract from the CIA to build a spyplane known as the U-2 was tested at Groom Lake in the
Nevada desert, and the Flight Test Engineer in charge was Joseph F. Ware, Jr. The first overflight took place on July 4 1956. The U-2 ceased overflights when Francis Gary Powers was shot down during a mission on May 1, 1960, while over Russia. The Skunk Works had predicted that the U-2 would have a limited operational life over the Soviet Union
The CIA agreed. In late 1959, Skunk Works received a contract to build five A-12 aircraft at a cost of $96 million. Building a Mach 3.0+ aircraft out of titanium posed enormous difficulties, and the first flight did not occur until 1962. (Titanium supply was largely dominated by the Soviet Union, so the CIA used several shell corporations to acquire
source material.) Several years later, the U.S. Air Force became interested in the design, and it ordered the SR-71 Blackbird, a two-seater version of the A-12. This aircraft first flew in 1966 and remained in service until 1998. The D-21 drone, similar in design to the Blackbird, was built to overfly the Lop Nur nuclear test facility in China. This drone
was launched from the back of a specially modified A-12, known as M-21, of which there were two built. After a fatal mid-air collision on the fourth launch, the drones were re-built as D-21Bs, and launched with a rocket booster from B-52s. Four operational missions were conducted over China, but the camera packages were never successfully
recovered. Kelly Johnson headed the Skunk Works until 1975. He was succeeded by Ben Rich. In 1976, the Skunk Works began production on a pair of stealth technology demonstrators for the U.S. Air Force named Have Blue in Building 82 at Burbank. These scaled-down demonstrators, built in only 18 months, were a revolutionary step forward in
aviation technology because of their extremely small radar cross-section. After a series of successful test flights beginning in 1977, the Air force awarded Skunk Works the contract to build the F-117 stealth fighter on November 1, 1978. During the entirety of the Cold War, the Skunk Works was located in Burbank, California, on the eastern side of
Burbank-Glendale-Pasadena Airport (34.200768°N 118.351826°W / 34.200768°N 118.351826°W / 34.200768°N 118.351826). After 1989, Lockheed reorganized its operations and relocated the Skunk Works to Site 10 at U.S. Air Force Plant 42 in Palmdale, California, where it remains in operation today. Most of the old Skunk Works buildings in Burbank were demolished in the late
1990s to make room for parking lots. One main building still remains at 2777 Ontario Street in Burbank (near San Fernando Road), now used as an office building, Edwin Catmull and Steve Jobs visited a Skunkworks Building which influenced
Jobs' design.[13] In 2009, the Skunk Works was inducted into the International Air & Space Hall of Fame at the San Diego Air & Space Museum.[14] Share — copy and redistribute the material in any medium or format for any purpose, even commercially. The
 licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit, provide a link to the licensor endorses you or your use. ShareAlike — If you remix, transform, or
build upon the material, you must distribute your contributions under the same license as the original. No additional restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain
or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Aerospace research facility in the United States "Skunk works"
redirects here. For other uses, see Skunkworks (disambiguation). Skunk Works is an official pseudonym for Lockheed Advanced Development Projects. It is responsible for a number of aircraft designs, highly classified research and development programs,
and exotic aircraft platforms. Known locations include United States Air Force Plant 42 (Palmdale, California), United States Air Force Plant 43 (Palmdale, California), United States Air Force Plant 44 (Palmdale, Californi
SR-71 Blackbird, F-117 Nighthawk, F-22 Raptor, and F-35 Lightning II, the latter being used in the air forces of several countries. The Skunk Works name was taken from the "Skonk Oil" factory in the comic strip Li'l Abner. Derived from the Lockheed use of the term, the designation "skunk works" or "skunkworks" is now widely used in business,
engineering, and technical fields to describe a group within an organization given a high degree of autonomy and unhampered by bureaucracy, with the task of working on advanced or secret projects. Entrance plaza at the Skunk Works in Palmdale, California There are conflicting observations about the birth of Skunk Works. Engineer Ben Rich sets
the origin as June 1943 in Burbank, California.[4] Kelly Johnson has made contradictory statements, some agreeing with Rich, and others putting the origin earlier, in 1939.[5] The official Lockheed Aircraft Corporation to express its need for
a jet fighter. A rapidly growing German jet threat gave Lockheed an opportunity to develop an airframe around the most powerful jet engine that the allied forces had access to, the British Goblin. Lockheed was chosen to develop an airframe around the most powerful jet engine that the allied forces had access to, the British Goblin. Lockheed was chosen to develop the jet because of its past interest in jet development and its previous contracts with the Air Force. One month after the
ATSC and Lockheed meeting, the young engineer Clarence L. "Kelly" Johnson and other associate engineers hand delivered the initial XP-80 proposal to the ATSC. Two days later the go-ahead was given to Lockheed to start development and the Skunk Works was born, with Kelly Johnson at the helm. The formal contract for the XP-80 did not arrive at
Lockheed until October 16, 1943; some four months after work had already begun. This would prove to be a common practice within the Skunk Works. Many times a customer would begin, with no contracts in place, no official submittal process. Kelly Johnson and his
Skunk Works team designed and built the XP-80 in only 143 days, seven fewer than was required.[6] Warren M. Bodie, journalist, historian, and Skunk Works variety were demonstrated earlier when Lockheed was asked by Lieutenant Benjamin
S. Kelsey (later air force brigadier general) to build for the United States Army Air Corps a high speed, high altitude fighter to compete with German aircraft. In July 1938, while the rest of Lockheed was busy tooling up to build Hudson reconnaissance bombers to fill a British contract, a small group of engineers was assigned to fabricate the first
prototype of what would become the P-38 Lightning. Kelly Johnson set them apart from the rest of the factory in a walled-off section of one building, off limits to all but those involved directly.[7] Secretly, a number of advanced features were being incorporated into the new fighter including a significant structural revolution in which the aluminum
skin of the aircraft was joggled, fitted and flush-riveted, a design innovation not called for in the army's specification but one that would yield less aerodynamic drag and give greater strength with lower mass. As a result, the XP-38 was the first 400-mph fighter in the world. The Lightning team was temporarily moved to the 3G Distillery, a smelly
former bourbon works where the first YP-38 (constructor's number 2202) was built.[2] Moving from the distillery to a larger building, the stench from a nearby plastic factory was so vile that Irv Culver, one of the engineers, began answering the intra-Lockheed "house" phone "Skonk Works, inside man Culver speaking!"[8] In Al Capp's comic strip Li'l
Abner, Big Barnsmell's Skonk Works — spelled with an "o" — was where Kickapoo Joy Juice was brewed from skunks, old shoes, kerosene, anvils, and other strange ingredients. When the name leaked out, Lockheed ordered it changed to "Skunk Works" to avoid potential legal trouble over use of a copyrighted term. The term rapidly circulated
throughout the aerospace community, and became a common nickname for research and development offices. The once informal nickname is now a registered trademark of Lockheed Martin.[8] In November 1941, Kelsey gave the unofficial nod to Johnson and the P-38 team to engineer a drop tank system to extend range for the fighter, and they
completed the initial research and development without a contract. When the Army Air Forces officially asked for a range extension solution it was ready.[9] The range modifications were performed in Lockheed's Building 304, starting with 100 P-38F models on April 15, 1942.[10] Some of the group of independent-minded engineers were later
involved with the XP-80 project, the prototype of the P-80 Shooting Star. Mary G. Ross, the first Native American female engineer, began working at Lockheed in 1942 on the mathematics of compressibility in high-speed flight[11]—a problem first seriously encountered in the P-38.[12] In 1952, she was invited to join the Skunk Works team.[11]
Assembly line of the SR-71 Blackbird at Skunk Works In 1955, the Skunk Works received a contract from the CIA to build a spyplane known as the U-2 was tested at Groom Lake in the Nevada desert, and the Flight Test Engineer in charge was
Joseph F. Ware, Jr. The first overflight took place on July 4 1956. The U-2 ceased overflights when Francis Gary Powers was shot down during a mission on May 1, 1960, while over Russia. The Skunk Works received a
contract to build five A-12 aircraft at a cost of $96 million. Building a Mach 3.0+ aircraft out of titanium posed enormous difficulties, and the first flight did not occur until 1962. (Titanium supply was largely dominated by the Soviet Union, so the CIA used several shell corporations to acquire source material.) Several years later, the U.S. Air Force
became interested in the design, and it ordered the SR-71 Blackbird, a two-seater version of the A-12. This aircraft first flew in 1966 and remained in service until 1998. The D-21 drone, similar in design to the Blackbird, was built to overfly the Lop Nur nuclear test facility in China. This drone was launched from the back of a specially modified A-12
He was succeeded by Ben Rich. In 1976, the Skunk Works began production on a pair of stealth technology demonstrators for the U.S. Air Force named Have Blue in Building 82 at Burbank. These scaled-down demonstrators for the U.S. Air Force named Have Blue in Building 82 at Burbank. These scaled-down demonstrators for the U.S. Air Force named Have Blue in Building 82 at Burbank.
cross-section. After a series of successful test flights beginning in 1977, the Air force awarded Skunk Works the contract to build the F-117 stealth fighter on November 1, 1978. During the entirety of the Cold War, the Skunk Works was located in Burbank, California, on the eastern side of Burbank-Glendale-Pasadena Airport (34°12′03″N 118°21′07″W
lots. One main building still remains at 2777 Ontario Street in Burbank (near San Fernando Road), now used as an office building for digital film post-production and Steve Jobs visited a Skunkworks Building which influenced Jobs' design.[13] In 2009, the Skunkworks and sound mixing. During the late 1990s when designing Pixar's building, Edwin Catmull and Steve Jobs visited a Skunkworks Building which influenced Jobs' design.[13] In 2009, the Skunkworks are not sound mixing.
Works was inducted into the International Air & Space Hall of Fame at the San Diego Air & Space Museum.[14] Next generation optionally-manned U-2 aircraft, instead of strategic reconnaissance.[15] A modern Skunk Works
project leverages an older one: LASRE atop the SR-71 Blackbird. Lockheed Y-38 Lightning (unofficial)[7][3] Lockheed Y-80 Shooting Star Lockheed SR-71 Blackbird Lockheed D-21 Lockheed XST (Have Blue) and Lockheed F-117
Nighthawk Lockheed YF-22 and Lockheed Martin F-22 Raptor Lockheed Martin Y-35 Lockheed Martin Tockheed Martin F-35 Lightning II Lockheed Martin Desert Hawk Lockheed Martin RQ-170 Sentinel Lockheed Martin X-55 Lockheed Martin F-35 Lightning II Lockheed Martin Tockheed Ma
SR-72 Lockheed Martin X-59 QueSST High beta fusion reactor Sea Shadow The Skunk Works logo as seen on one of Lockheed Martin's hangars. The term "Skunk Works" came from Al Capp's satirical, hillbilly comic strip Li'l Abner, which was immensely popular from 1935 through the 1950s.[6] In the comic, the "Skonk Works" was a dilapidated
factory located on the remote outskirts of Dogpatch, in the backwoods of Kentucky. According to the strip, scores of locals were done in yearly by the toxic fumes of the concentrated "skonk Works), by grinding dead skunks and worn shoes
into a smoldering still, for some mysterious, unspecified purpose. In mid-1939[16] when Lockheed was expanding rapidly, the YP-38 project was moved a few blocks away to the newly purchased 3G Distillery, also known as Three G or GGG Distillery. [2] Lockheed took over the building but the sour smell of bourbon mash lingered, partly because the
group of buildings continued to store barrels of aging whiskey.[17] The first YP-38 was built there before the team moved back to Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed's main factory and the first of five Lockheed's
Johnson's engineering team was located adjacent to a malodorous plastics factory.[4] According to Ben Rich's memoir, an engineer jokingly showed up to work one day wearing a Civil Defense gas mask. To comment on the smell and the secrecy the project entailed, another engineer, Irv Culver, referred to the facility as "Skonk Works". As the
development was very secret, the employees were told to be careful even with how they answered phone calls. One day, when the Department of the P-80 project, the call was accidentally transferred to Culver's desk. Culver answered the phone in his trademark fashion of the time, by
picking up the phone and stating "Skonk Works, inside man Culver". "What?" replied the voice at the other end. "Skonk Works", Culver later said at an interview conducted in 1993 that "when Kelly Johnson heard about the incident, he promptly fired me. It didn't really matter, since he was firing me about twice a day
anyways."[18][19][20][21] At the request of the comic strip copyright holders, Lockheed changed the name of the advanced development company to "Skunk Works" in the 1960s. The name "Skunk Works" and the skunk design are now registered trademarks of the Lockheed Martin Corporation.[22] The company also holds several registrations of it
with the United States Patent and Trademark Office. They have filed several challenges against registrants of domain name dispute resolution service against a company selling cannabis seeds and paraphernalia, which used the word
"skunkworks" in its domain name (referring to "Skunk", the pungent smell of the cannabis flower). Lockheed Martin claimed the company registered the domain in order to disrupt its business and financial position to employ 'bullyboy
tactics against... a very small company."[23] In Australia, the trademark for use of the name "Skunkworks" is held by Perth-based television accessory manufacturer The Novita Group Pty Ltd. Lockheed Martin formally registered opposition to the application in 2006, however the Australian government's intellectual property authority, IP Australia,
rejected the opposition, awarding Novita the trademark in 2008.[24][25] Advanced Propulsion Physics Laboratory Area 51 Boeing Phantom Works Swamp Works ^ "Marietta, Georgia - Where Legacies Begin". Lockheed Martin. Retrieved April 29, 2024. ^ a b c d Bodie, 2001, p. 51. ^ a b c Current Biography Yearbook. H. W. Wilson Co. 1969. p. 199
At that time, Lockheed did not as yet have a formal engineering building, and so Johnson and his staff improvised a development plant using unoccupied corners in hangars and an old distillery. The results of this 'skunk works' approach was the legendary P-38 Lightning. ^ a b Bennis, Warren; Biederman, Patricia Ward (1997). Organizing Genius: The
Secrets of Creative Collaboration. Perseus Books. p. 117. ISBN 9780201339895. ^ a b Kocivar, Ben (October 6, 1964). "Collier Trophy". Look. Vol. 28, no. 20. p. 36. He calls his development plants 'skunk works'. There have been five of them - the first, an abandoned distillery. ^ a b "Skunk Works® Origin Story". Lockheed Martin. Retrieved July 24,
2018. ^ a b Bodie, 2001, p. 23. ^ a b "The Skunk Works® Legacy". Lockheed Martin. Retrieved January 14, 2024. ^ Bodie, 2001, p. 72. 
and the Breaking of the Sound Barrier". In Pamela E. Mack (ed.). Engineering Science to Big Scie
The International Aerospace Hall of Fame. Donning Co. Publishers. ISBN 978-1-57864-397-4.. ^ Drew, James (September 14, 2015). "Lockheed Skunk Works' next-generation U-2 morphs into 'TR-X'". Flight Global. Retrieved December 24, 2015. ^ "Aircraft Company Remodels Old Distillery". Los Angeles Times. June 25, 1939. p. V-3 - via
0316743006. Thow the Skunk Works got its name. Archived from the original on March 8, 2011. Skunk Works Story | Aviation Revolutions, Lockheed, And Kelly Johnson. Retrieved February 24, 2024 - via YouTube. Skunk Works Story | Aviation Revolutions, Lockheed, And Kelly Johnson. Retrieved February 24, 2024 - via YouTube.
Corporation vs. UK Skunkworks Ltd - Decision of Appeal Panel" (PDF). Nominet UK. April 23, 2007. Archived from the original (PDF) on February 26, 2008). "Skunkworks wins naming right fight". Business News. May 28, 2008 New
 Retrieved January 8, 2022. Bodie, Warren M. (2001). The Lockheed P-38 Lightning: The Definitive Story of Lockheed's P-38 Fighter. Hayesville, North Carolina: Widewing Publications. ISBN 1-85780-037-0. Rich, Ben; Leo, Janos (1996). Skunk
Works. Little, Brown & Company. ISBN 0-316-74300-3. Official website Wilson, Jim (September 1999). "Skunk Works Magic". Popular Mechanics. "Lockheed Martin. June 17, 2003. "75 Years of Lockheed Martin's Skunk Works" (PDF). Aviation Week & Space
Technology. June 14, 2018. Archived from the original (PDF) on June 15, 2018. Retrieved June 15, 2018. Trimble, Stephen (June 15, 2018. Trimble, Stephen (June 15, 2018). "75 years on, Lockheed's Skunk Works is still innovating". Flightglobal. June 15, 2018. Trimble, Stephen (June 15, 2018). "Analysis: Does
Skunk Works hiring binge indicate secret new programme?". Flightglobal. 34°36′53″N 118°07′07″W / 34.614734°N 118.118676°W / 34.614780°N 118.118670°W / 34.614780°W / 34.61480°W / 34.61480°W /
pseudonym for Lockheed Martin's Advanced Development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects. It is responsible for a number of aircraft designs, highly classified research and development Projects.
United States Air Force Plant 4 (Fort Worth, Texas), and Marietta, Georgia.[1] Skunk Works' history started with the P-38 Lightning in 1939[2][3] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][3] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][3] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][8] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][8] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][8] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][8] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-38 Lightning in 1939[2][8] and the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history started with the Shooting Star in 1943. Skunk Works' history started with the P-80 Shooting Star in 1943. Skunk Works' history start
several countries. The Skunk Works name was taken from the "Skunk Works" or "skunkworks" is now widely used in business, engineering, and technical fields to describe a group within an organization given a high degree of autonomy and
unhampered by bureaucracy, with the task of working on advanced or secret projects. Entrance plaza at the Skunk Works in Palmdale, California There are conflicting observations about the birth of Skunk Works. Engineer Ben Rich sets the origin as June 1943 in Burbank, California.[4] Kelly Johnson has made contradictory statements, some
agreeing with Rich, and others putting the origin earlier, in 1939.[5] The official Lockheed Skunk Works story states: The Air Tactical Service Command (ATSC) of the Army Air Force met with Lockheed Aircraft Corporation to express its need for a jet fighter. A rapidly growing German jet threat gave Lockheed an opportunity to develop an airframe
around the most powerful jet engine that the allied forces had access to, the British Goblin. Lockheed was chosen to develop the jet because of its past interest in jet development and its previous contracts with the Air Force. One month after the ATSC and Lockheed meeting, the young engineer Clarence L. "Kelly" Johnson and other associate
engineers hand delivered the initial XP-80 proposal to the ATSC. Two days later the go-ahead was given to Lockheed to start development and the Skunk Works was born, with Kelly Johnson at the helm. The formal contract for the XP-80 did not arrive at Lockheed until October 16, 1943; some four months after work had already begun. This would
prove to be a common practice within the Skunk Works. Many times a customer would come to the Skunk Works with a request and on a handshake the project would begin, with no contracts in place, no official submittal process, Kelly Johnson and his Skunk Works team designed and built the XP-80 in only 143 days, seven fewer than was required.
[6] Warren M. Bodie, journalist, historian, and Skunk Works engineer from 1977 to 1984, wrote that engineering independence, elitism and secrecy of the Skunk Works variety were demonstrated earlier when Lockheed was asked by Lieutenant Benjamin S. Kelsey (later air force brigadier general) to build for the United States Army Air Corps a high
speed, high altitude fighter to compete with German aircraft. In July 1938, while the rest of Lockheed was busy tooling up to build Hudson reconnaissance bombers to fill a British contract, a small group of engineers was assigned to fabricate the first prototype of what would become the P-38 Lightning. Kelly Johnson set them apart from the rest of
the factory in a walled-off section of one building, off limits to all but those involved directly, [7] Secretly, a number of advanced features were being incorporated into the new fighter including a significant structural revolution in which the aluminum skin of the aircraft was joggled, fitted and flush-riveted, a design innovation not called for in the
army's specification but one that would yield less aerodynamic drag and give greater strength with lower mass. As a result, the XP-38 was the first 400-mph fighter in the world. The Lightning team was temporarily moved to the 3G Distillery, a smelly former bourbon works where the first YP-38 (constructor's number 2202) was built.[2] Moving from
the distillery to a larger building, the stench from a nearby plastic factory was so vile that Irv Culver, one of the engineers, began answering the intra-Lockheed "house" phone "Skonk Works, inside man Culver speaking!"[8] In Al Capp's comic strip Li'l Abner, Big Barnsmell's Skonk Works—spelled with an "o" — was where Kickapoo Joy Juice was
brewed from skunks, old shoes, kerosene, anvils, and other strange ingredients. When the name leaked out, Lockheed ordered it changed to "Skunk Works" to avoid potential legal trouble over use of a copyrighted term. The term rapidly circulated throughout the aerospace community, and became a common nickname for research and development
offices. The once informal nickname is now a registered trademark of Lockheed Martin.[8] In November 1941, Kelsey gave the unofficial nod to Johnson and the P-38 team to engineer a drop tank system to extend range for the fighter, and they completed the initial research and development without a contract. When the Army Air Forces officially
asked for a range extension solution it was ready.[9] The range modifications were performed in Lockheed's Building 304, starting with 100 P-38F models on April 15, 1942.[10] Some of the prototype of the P-80 Shooting Star. Mary G. Ross, the first Native
American female engineer, began working at Lockheed in 1942 on the mathematics of compressibility in high-speed flight[11]—a problem first seriously encountered in the P-38.[12] In 1952, she was invited to join the Skunk Works team.[11] Assembly line of the SR-71 Blackbird at Skunk Works In 1955, the Skunk Works received a contract from the
CIA to build a spyplane known as the U-2 with the intention of flying over the Soviet Union and photographing sites of strategic interest. The U-2 was tested at Groom Lake in the Nevada desert, and the Flight Test Engineer in charge was Joseph F. Ware, Jr. The first overflight took place on July 4 1956. The U-2 ceased overflights when Francis Gary
Powers was shot down during a mission on May 1, 1960, while over Russia. The Skunk Works had predicted that the U-2 would have a limited operational life over the Soviet Union. The CIA agreed. In late 1959, Skunk Works received a contract to build five A-12 aircraft at a cost of $96 million. Building a Mach 3.0+ aircraft out of titanium posed
enormous difficulties, and the first flight did not occur until 1962. (Titanium supply was largely dominated by the Soviet Union, so the CIA used several shell corporations to acquire source material.) Several years later, the U.S. Air Force became interested in the design, and it ordered the SR-71 Blackbird, a two-seater version of the A-12. This aircraft
first flew in 1966 and remained in service until 1998. The D-21 drone, similar in design to the Blackbird, was built to overfly the Lop Nur nuclear test facility in China. This drone was launched from the back of a specially modified A-12, known as M-21, of which there were two built. After a fatal mid-air collision on the fourth launch, the drones were
re-built as D-21Bs, and launched with a rocket booster from B-52s. Four operational missions were conducted over China, but the camera packages were never successfully recovered. Kelly Johnson headed the Skunk Works until 1975. He was succeeded by Ben Rich. In 1976, the Skunk Works began production on a pair of stealth technology
demonstrators for the U.S. Air Force named Have Blue in Building 82 at Burbank. These scaled-down demonstrators, built in only 18 months, were a revolutionary step forward in aviation technology because of their extremely small radar cross-section. After a series of successful test flights beginning in 1977, the Air force awarded Skunk Works the
contract to build the F-117 stealth fighter on November 1, 1978. During the entirety of the Cold War, the Skunk Works was located in Burbank, California, on the eastern side of Burbank Works was located in Burbank, California, on the eastern side of Burbank Works was located in Burbank, California, on the eastern side of Burbank Works was located in Burbank Works was located in Burbank, California, on the eastern side of Burbank Works was located in Burbank Works was located 
relocated the Skunk Works to Site 10 at U.S. Air Force Plant 42 in Palmdale, California, where it remains in operation today. Most of the old Skunk Works building still remains at 2777 Ontario Street in Burbank (near San Fernando Road), now used as an
office building for digital film post-production and sound mixing. During the late 1990s when designing Pixar's building, Edwin Catmull and Steve Jobs visited a Skunkworks Building which influenced Jobs' design.[13] In 2009, the Skunk Works was inducted into the International Air & Space Hall of Fame at the San Diego Air & Space Museum.[14]
Next generation optionally-manned U-2 aircraft. During September 2015 the proposed aircraft was deemed to have developed into more of a tactical reconnaissance.[15] A modern Skunk Works project leverages an older one: LASRE atop the SR-71 Blackbird. Lockheed P-38 Lightning (unofficial)[7][3]
Lockheed P-80 Shooting Star Lockheed XF-90 Lockheed XF-104 Starfighter Lockheed Wartin F-22 Raptor Lockheed Martin X-33 Lockheed Martin X-35 and Lockheed P-80 Shooting Star Lockheed Wartin F-22 Raptor Lockheed Martin X-33 Lockheed Martin X-35 and Lockheed P-80 Shooting Star Lockheed Wartin F-22 Raptor Lockheed Wartin X-36 Frigate Lockheed Wartin X-36 Frigate Lockheed Wartin X-37 Lockheed Wartin X-38 Lockh
Lockheed Martin F-35 Lightning II Lockheed Martin RQ-170 Sentinel Lockheed Martin RQ-170 Senti
one of Lockheed Martin's hangars. The term "Skunk Works" came from Al Capp's satirical, hillbilly comic strip Li'l Abner, which was immensely popular from 1935 through the 1950s. [6] In the comic, the "Skonk Works" was a dilapidated factory located on the remote outskirts of Dogpatch, in the backwoods of Kentucky. According to the strip, scores
of locals were done in yearly by the toxic fumes of the concentrated "skonk oil", which was brewed and barreled daily by "Big Barnsmell" (known as the lonely "inside man" at the Skonk Works), by grinding dead skunks and worn shoes into a smoldering still, for some mysterious, unspecified purpose. In mid-1939[16] when Lockheed was expanding
rapidly, the YP-38 project was moved a few blocks away to the newly purchased 3G Distillery, also known as Three G or GGG Distillery. [2] Lockheed took over the buildings continued to store barrels of aging whiskey. [17] The first YP-38 was built there before the team
moved back to Lockheed's main factory a year later.[2][3] In 1964, Johnson told Look magazine that the bourbon distillery was the first of five Lockheed skunk works locations.[5] During the development of the P-80 Shooting Star, Johnson's engineering team was located adjacent to a malodorous plastics factory.[4] According to Ben Rich's memoir, an
engineer jokingly showed up to work one day wearing a Civil Defense gas mask. To comment on the secrecy the project entailed, another engineer, Irv Culver, referred to the facility as "Skonk Works". As the development was very secret, the employees were told to be careful even with how they answered phone calls. One day, when the
Department of the Navy was trying to reach the Lockheed management for the P-80 project, the call was accidentally transferred to Culver's desk. Culver answered the phone in his trademark fashion of the time, by picking up the phone and stating "Skonk Works, inside man Culver". "What?" replied the voice at the other end. "Skonk Works", Culver
repeated. The name stuck. Culver later said at an interview conducted in 1993 that "when Kelly Johnson heard about twice a day anyways."[18][19][20][21] At the request of the comic strip copyright holders, Lockheed changed the name of the advanced
development company to "Skunk Works" in the 1960s. The name "Skunk Works" and the skunk design are now registered trademarks of the Lockheed Martin Corporation. [22] The company also holds several registrations of it with the United States Patent and Trademark Office. They have filed several challenges against registrants of domain names
containing variations on the term under anti-cybersquatting policies, and have lost a case under the .uk domain name (referring to "Skunk", the pungent smell of the cannabis flower). Lockheed Martin claimed
the company registered the domain in order to disrupt its business and that consumer confusion might result. The respondent company argued that Lockheed "used its size, resources and financial position to employ 'bullyboy' tactics against... a very small company."[23] In Australia, the trademark for use of the name "Skunkworks" is held by Perth-
based television accessory manufacturer The Novita Group Pty Ltd. Lockheed Martin formally registered opposition to the application in 2006, however the Australian government's intellectual property authority, IP Australia, rejected the opposition, awarding Novita the trademark in 2008.[24][25] Advanced Propulsion Physics Laboratory Area 51
Boeing Phantom Works Swamp Works ^ "Marietta, Georgia - Where Legacies Begin". Lockheed Martin. Retrieved April 29, 2024. ^ a b c d Bodie, 2001, p. 51. ^ a b c d Bodie, 2001, p. 51. ^ a b c Current Biography Yearbook. H. W. Wilson Co. 1969. p. 199. At that time, Lockheed did not as yet have a formal engineering building, and so Johnson and his staff improvised a
development plant using unoccupied corners in hangars and an old distillery. The results of this 'skunk works' approach was the legendary P-38 Lightning. ^ a b Bennis, Warren; Biederman, Patricia Ward (1997). Organizing Genius: The Secrets of Creative Collaboration. Perseus Books. p. 117. ISBN 9780201339895. ^ a b Kocivar, Ben (October 6,
1964). "Collier Trophy". Look. Vol. 28, no. 20. p. 36. He calls his development plants 'skunk works'. There have been five of them - the first, an abandoned distillery. ^ a b "Skunk Works® Legacy". Lockheed Martin. Retrieved January 14,
2024. ^ Bodie, 2001, p. 72. ^ Bodie, 2001, p. 72. ^ Bodie, 2001, p. 94. ^ a b Briggs, Kara (December 24, 2008). "Cherokee Phoenix. NMAI Newservice. ^ Anderson, John D., Jr (1998). "Research in Supersonic Flight and the Breaking of the Sound Barrier". In Pamela E. Mack (ed.). Engineering Science to Big Science. NASA.
p. 72. ISBN 978-0160496400. {{cite book}}: CS1 maint: multiple names: authors list (link) ^ Catmull, Edwin (2014). Afterword: The Steve We Knew. Creativity Inc. ISBN 9780812993011. ^ Sprekelmeyer, Linda, ed. (2006). These We Honor: The International Aerospace Hall of Fame. Donning Co. Publishers. ISBN 978-1-57864-397-4.. ^ Drew, James
(September 14, 2015). "Lockheed Skunk Works' next-generation U-2 morphs into 'TR-X'". Flight Global. Retrieved December 24, 2015. ^ "Aircraft Company Remodels Old Distillery". Los Angeles Times. June 25, 1939. p. V-3 - via Newspapers.com. ^ Cefaratt, Gil (2002). Lockheed: The People Behind the Story. Turner Publishing. pp. 89, 110.
ISBN 9781563118470. ^ Pace, Steve (1992). Lockheed Skunk Works. A Personal Memoir of My Years at Lockheed. Back Bay Books. ISBN 978-0316743006. ^ "How the Skunk Works got its name". Archived from the original on March 8, 2011. ^ Skunk Works Story
Aviation Revolutions, Lockheed, And Kelly Johnson. Retrieved February 24, 2024 - via YouTube. ^ Boyne, Walter J., Beyond the Horizons, p. 154. ^ "Nominet UK Dispute Resolution Service - DRS 04100 - Lockheed Martin Corporation vs. UK Skunkworks Ltd - Decision of Appeal Panel" (PDF). Nominet UK. April 23, 2007. Archived from the original
```

```
(PDF) on February 26, 2009. ^ Guan, Lilia (May 27, 2008). "Skunkworks wins trade name battle". CRN Australia. Retrieved December 31, 2011. ^ "Skunkworks wins naming right fight". Business News. May 28, 2008. Retrieved January 8, 2022. Bodie, Warren M. (2001). The Lockheed P-38 Lightning: The Definitive Story of Lockheed's P-38 Fighter.
Hayesville, North Carolina: Widewing Publications. ISBN 0-9629359-5-6. Miller, Jay (1995). Lockheed Martin's Skunk Works: The Official History. Aerofax. ISBN 0-316-74300-3. Official website Wilson, Jim (September 1999). "Skunk Works Magic". Popular
Mechanics. "Lockheed Martin's Skunk Works Celebrates Diamond Anniversary" (Press release). Lockheed Martin. June 17, 2003. "75 Years of Lockheed Martin's Skunk Works" (PDF). Aviation Week & Space Technology. June 14, 2018. Archived from the original (PDF) on June 15, 2018. Retrieved June 15, 2018. Trimble, Stephen (June 15, 2018). "75
years on, Lockheed's Skunk Works is still innovating". Flightglobal. "Opinion: Johnson's Skunk Works legacy is in safe hands". Flightglobal. June 15, 2018. Trimble, Stephen (June 15, 2018). "Analysis: Does Skunk Works hiring binge indicate secret new programme?". Flightglobal. 34°36′53″N 118°07′07″W / 34.614734°N 118.118676°W / 34.614734;
 -118.118676 Retrieved from " Lockheed Martin's renowned Skunk Works officially marks its 60th Anniversary today. Once the informal name for the Lockheed organization led by Clarence L. "Kelly" Johnson that produced many of America's most technologically advanced aircraft, the Skunk Works has made an indelible mark on aviation history. The
Skunk Works is regarded worldwide as one of the most respected design and development names in aeronautics. During the heat of World War II, Johnson, Lockheed's famed aircraft designer, forged a team of engineers behind tightly closed doors in makeshift facilities in Burbank, Calif., and designed and development names in aeronautics. During the heat of World War II, Johnson, Lockheed's famed aircraft designer, forged a team of engineers behind tightly closed doors in makeshift facilities in Burbank, Calif., and designed and development names in aeronautics.
Force's first truly operational jet fighter, in a mere 143 days. Since then, this organization continues within Lockheed Martin and has given shape to many "firsts" such as the F-104 Starfighter, the first Mach 2 aircraft; the U-2 reconnaissance aircraft, which is still the highest flying single engine airplane; and the SR-71 "Blackbird" reconnaissance
aircraft, which was the first to fly at speeds in excess of Mach 3. The SR-71, which has been retired, is still the highest flying and fastest jet aircraft ever development of the F-117 Nighthawk, the world's first operational stealth fighter, and led development of the YF-22 Advanced Tactical Fighter, the
forerunner of today's F/A-22 Raptor, the first aircraft to combine stealth, supercruise, super maneuverability, and highly integrated avionics. More recently, the Skunk Works led the development and flight testing of the Lockheed Martin, Northrop Grumman, BAE Systems X-35 Joint Strike Fighter (JSF) prototypes. Included in this effort was the
successful flight testing of the innovative lift fan system on the X-35B demonstrator. The successful testing of this revolutionary vertical landing capability was a key factor in the Lockheed Martin team's win in the JSF competition. With production of the F-35 aircraft scheduled to last for four decades, the JSF program will likely be the largest defense
contract in history. How did the Skunk Works name come into being? The actual facts have been veiled by time. But there is no doubt that it was derived from the "Skonk Works" in Al Capp's popular 1940s-era "Li'l Abner" comic strip that appeared in newspapers nationwide. It is believed that Irv Culver, a talented designer who worked on Johnson's
original 1943 P-80 development team was responsible for the name. Johnson, who died in 1990, noted in his autobiography, "The legend goes that one of our engineers -- I guess it was Culver -- was asked 'What is Kelly doing in there?' He's stirring up some kind of brew,' was the answer. This brought to mind Li'l Abner and the hairy Indian in that
strip who regularly stirred up a big brew, throwing in skunks, old shoes and other material to make his 'Kickapoo joy juice.'" Culver's version differs. He recalled that World War II secrecy dictated that Lockheed engineers could not even identify their office when answering the phone. The isolation reminded him of the much-shunned Kickapoo joy
juice works in the comic strip. So one day when a group of Pentagon military officers placed a conference call, he answered, "Skonk Works," and the name stuck. Nestled in the fringes of California's Mojave Desert, Advanced Developmen
Programs (a.k.a. The Skunk Works) today continues its notable tradition by developing transformational strategies and classified products in a "quick", "quiet" and "quality" manner to support its varied customers. It continues to "brew" up new innovations that are and will serve our nation's defense for decades to come. The Skunk Works unique
unmanned products, i.e. Desert Hawk and FPASS recently saw action in both Afghanistan and Iraq. Frank Started his Lockheed Martin career in the Skunk Works and is committed to keeping this national asset in the forefront of aeronautical technology and
products. His vision, like Kelly Johnson's is simple: Superior products through innovation. Lockheed Martin Aeronautics Co., headquartered in Fort Worth, Texas, is a leader in the design, development, systems integration, products of the
United States and allied countries throughout the world. Products include the F-16, F/A-22, F-35 JSF, F-117, T-50, C-5, C-130, P-3, S-3 and U-2. Headquartered in Bethesda, Md., Lockheed Martin employs about 125,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced
technology systems, products and services. The corporation reported 2002 sales of $26.6 billion. For additional information, visit our websites: SOURCE: Lockheed Martin Aeronautics Company At Lockheed Martin Skunk Works®, your mission defines our purpose. Our team of dedicated engineers and scientists assume it can be done. With a
visionary focus on the future, we partner with our customers to anticipate tomorrow's capability gaps and technology needs to solve the most critical national security challenges today. With our enduring legacy, unique culture and way of operating, Skunks move quickly to develop disruptive solutions in core capability areas needed for our nation's
future success. Discover how our team is defining the future by clicking the capability icons below. As the threat evolves to a highly contested environment, a survivable and persistent ISR system is needed to provide lifesaving intelligence for the warfighter. We're working on solutions that combine stealth technology, speed and improved sensors to
penetrate and operate in hostile environments. Learn More We are evolving technologies that connect, share and learn to create a holistic network across the battlespace. From the depths of sea to the far reaches of space, our engineers' extensive expertise in advanced technology solutions will power the joint all-domain battlespace. Learn More We
are proud to support the DoD and warfighters in developing rapid and cost effective hypersonic solutions. Our robust experience in high-speed flight is the foundation on which we are developing cutting edge technologies to enable hypersonic solutions.
accelerates development. From artificial intelligence and networked factories to data analytics and augmented reality, the digital thread helps our team connect, collaborate and innovate with agility. Learn More 85% of the work we do is classified and executed in secrecy to protect our national security and ensure our armed forces maintain an edge
over any threat. We embrace new approaches and techniques to enhance efficiency while adhering to our tried-and-true way of operating. Digital Transformation methodologies and advanced digitally enabled technologies allows us to deliver holistic integrated solutions faster and more effectively, ensuring that we continue to meet and exceed the
evolving needs of our customers. Mission-driven transformation is what we do. In today's contested battlespace, our operators need to get closer to the fight. We're advancing next generation air mobility through investment in connected and survivable tanking solutions that provide the reliability and versatility operators have come to expect. At
Lockheed Martin Skunk Works, nothing is impossible. Our scientists and engineers tackle some of the world's hardest problems every day to pioneer radical approaches to groundbreaking advanced technology concepts. Skunk Works developed iconic aircraft like the U-2, SR-71, and F-117A through innovative engineering. The development of the XP-
80 jet fighter marked the birth of Skunk Works and set a high standard for rapid production. Lockheed Martin's Skunk Works continues to drive aviation innovation, creating stealthy aircraft, X-planes, and advanced avionics. Lockheed Martin has a famous product development shop in Palmdale, California, known as Skunk Works. From Skunk Works
has come at least the XP-80 early jet fighter, U-2 and SR-71 spy planes, the F-117A Nighthawk, the F-22 Raptor, the F-35 Lightning II, and multiple stealthy uncrewed aircraft. A Skunk Works initially to developed by Spunk Works was the
World War II XP-80 in 1943 in response to the Luftwaffe's Me-262. The Me-262 was the first mass-produced jet fighter, as per the below guide. Related A brief history of the Me 262's development, with views by top British and German pilots. The XP-80 would be Kelly Johnson's first jet, developed in 143 days - less than the 150 days granted. Although
the XP-80 did not see combat in World War II, P-80 variants did see combat in the Korean War from 1950-1953, doing both air superiority and ground attack roles. Photo: Grossinger | Shutterstock.com Armament: Six .50-cal. machine guns and eight 5-in. rockets or 2,000 lbs. of bombs Engine: Allison J33 of 5,400 lbs. thrust Maximum speed: 580 mph
Cruising speed: 437 mph Range: 1,090 miles Ceiling: 46,800 ft. Span: 38 ft. 10 1/2 in. Length: 34 ft. 6 in. Height: 11 ft. 4 in. Weight: 16,856 lbs. maximum The Skunk Works name was born at this time from an Al Capp's newspaper comic strip, which was about a secret place in the woods brewing beverages from skunks, old shoes, and other wild
ingredients. When engineer Irv Culver answered the phone and said he worked for Skunk Works, the name stuck - especially as the P-80's development had to be a US national security secret at the time. Graphic: Lockheed Martin says
these rules still apply today, such as rule 12: "There must be mutual trust between the military project organization and liaison on a day-to-day basis. This cuts down misunderstanding and correspondence to an absolute minimum." The Skunk Works is most famous for developing spyplanes like the
U-2 "Dragon Lady" high-altitude spy plane in 1954 that could fly above Soviet air defenses caught up. The U-2's ability to operate at 70,000 ft (21.336 km) is still valuable today, even 70 years later, and many upgrades later. Photo: viper-zero | Shutterstock Power plant: One General Electric F118-101 engine Thrust: 17,000
pounds Wingspan: 105 feet (32 meters) Height: 16,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds Maximum takeoff weight: 40,000 pounds Maximum takeoff weight: 40,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds Maximum takeoff weight: 40,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 pounds (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons Payload: 5,000 kilograms (18,000 kilograms) Fuel capacity: 2,950 gallons (18,000 kilograms) Fuel capacity: 2,950 gallons (18,000 kilograms) Fuel capacity: 2,950 gallons (18,000 kilograms) Fuel capacity: 2,950 gallo
One should note that the many variants of U-2 can carry many sensors, such as wide-angle cameras, telephoto 
that could fly at Mach 3. The aircraft was developed originally as A-12, even though A stands for Attack. Eventually, it would become the SR-71 Blackbird, designed to fly at Mach 3 and refract radar returns to increase its ability to conduct reconnaissance worldwide. Photo: USAF According to SR-71.org, Skunk Works got the CIA order on January
26th, 1960, and by April 30th, 1962, they had a formal first flight. By May 2nd, the A-12 went supersonic; on July 20th, it exceeded Mach 3 - 3 times the speed of sound. In November, the design speed and altitude were met. Engines: Two Pratt & Whitney J58s of 32,500 lbs. thrust each with afterburner Crew: Two Maximum speed: Mach 3+ (three
times the speed of sound) or over 2,000 mph Range: More than 2,900 statute miles Ceiling: Over 85,000 ft. Span: 55 ft. 7 in. Length: 140,000 lbs. loaded Photo: Jose Gil | Shutterstock But the U-2 shootdown of May 1st, 1960, would result in standing orders from multiple United States Presidents to not overfly
the Soviet Union to prevent another tragedy and risk of escalation between the nuclear powers. As a result, the A-12 became the SR-71. Related The aircraft shattered records and climbed to new heights. The SR-71 would come with peripheral cameras to peek over the borders to eliminate the need for dangerous and unwelcome overflights.
would operate SR-71s and NASA for high-speed and high-altitude research. The SR-71 would have a final flight on October 9th, 1999, for an Edwards Air Force Base open house - but in the care of NASA pilots. The next major project of the Skunk Works would not be higher or faster but stealthier. Skunk Works was able to innovate to develop the F
117A Nighthawk - a subsonic, twin-engine jet that would reflect radar waves away from the source. Skunk Works would use many off-the-shelf parts to reduce development risk, integrating stealth design and adding laser designators and infrared tracking. The result would be a weapon platform that could carry two precision weapons or air-to-air
missiles. The F-117A first flew on June 18th, 1981, only 31 months after a US Air Force contract, saw combat in both 1991 and 2003 against Iraq as well as 1999 against Iraq as Ir
aircraft by Skunk Works. Skunk Works also was a key player in developing the X-35 prototype for the Joint Strike Fighter. The X-35 would win partly because Lockheed Martin could conduct a Hat Trick test of taking off vertically, going supersonically, and landing
vertically - a feat no other airplane could do before. But the X-35 was and is not Skunk Work's only X-plane. Skunk Work's only X-plane. Skunk Work's has worked on and is working on X Planes - or highly experimental aircraft - for NASA, like the X-59, which is meant to find an aerodynamic shape good enough for quiet supersonic flight. Thereby in the 2020s, building on the
1960s for a low observable supersonic spy plane - and all the work since. Related The aircraft will test new technologies to reduce the sonic boom to a dull thud and gather data to support eventual supersonic flights over land. Skunk Works has also worked on drones like the X-44A Flying Wing Drone. This has led to several long-endurance, low-
observable drones like the RQ-170 Sentinel that are about to replace the U-2 and other human-flown surveillance platforms. Skunk Works is also credited with developing avionics like Auto GCAS or Ground Collision Avoidance System. Auto GCAS, according to Lockheed Martin, has already saved no less than nine aircraft. The software notices that
the aircraft is heading too close to terrain away from an airport and that the pilot is not responding to warnings. So, the aircraft takes over control to get straight and level automatically. Yes, Skunk Works may have worked on something other than the original F-16 50 years ago, as General Dynamics developed the F-16 before Lockheed Martin
purchased the firm. Auto GCAS is also part of the F-22 Raptor and F-35 Lightning family as standard equipment. Keep up with the latest Simple Flying coverage of military aviation here. But the firm is now developing technology that will make aviation safer - including an air collision prevention system as profiled below at 25 minutes of this Fighte
Pilot Podcast episode with former Lockheed Martin test pilot Billie Flynn as a guest host: Although mid-air collisions are thankfully rare, the ability to intervene to prevent mid-air is a logical extension of Auto GCAS. These technologies are easily transferrable into commercial aviation. Skunk Works of Lockheed Martin has pushed aviation faster,
higher, and stealthier since 1943 - with more projects than listed here. No longer replying to adversaries to setting standards, Skunk Works also made aviation safer and has been the United States' most innovative research and development shop. Additionally, according to an August 10th, 2021, Lockheed Martin statement, Skunk Works now has a
215,000-square-foot intelligent, flexible factory with the latest in digital production devices. For instance, the facility enjoys, "Merging the power of human and machine, manufacturing artisans will work with digital tools to execute operations with maximum efficiency. The incorporation of robotics, artificial intelligence and augmented reality reduces.
the need for hard tooling, elevating the human experience to drive rapid innovation, a hallmark of the Skunk Works." But Skunk Works has also left space for other aviation firms to innovate, something we will discuss soon. What are your thoughts? Please share your thoughts with civility in the comments. "Skunk Works" is the nickname for the
headquarters of advanced development programs for Lockheed Martin Aeronautics Company at Palmdale, California, some 80 miles (128 km) north of Los Angeles in the Antelope Valley. Established in 1943 by what was then known as the Lockheed Aircraft Corporation, the Skunk Works has been the birthplace of numerous extraordinary aircraft,
including the U-2 and SR-71 reconnaissance planes and the F-117A stealth fighter. During World War II, Lockheed established the facility, under the direction of Clarence L. (Kelly) Johnson, to build the ultra-secret P-80 Shooting Star, the first jet-propelled fighter in the U.S. air fleet. The Skunk Works got its name from a nearby chemical plant, the
noxious odors of which wafted toward the Lockheed facility on windy days. Technicians there referred to the plant as the "skunk works," a term taken from the comic strip L'il Abner by Al Capp, and eventually the nickname became attached to the facility itself. Over the decades that followed, the Skunk Works, "a term taken from the comic strip L'il Abner by Al Capp, and eventually the nickname became attached to the facility on windy days.
Oxcart and SR-71 Blackbird in the 1960s, and the F-117A Nighthawk in the 1980s. It also adapted the C-130, used for troop transport by airborne forces, for special missions. The Skunk Works developed the CL-282 and CL-400, two craft that were
never went into use. The first of these, introduced in 1958, was to be a high-altitude reconnaissance craft, but plans for it were scrapped in favor of the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the U-2. The CL-400 was to be a successor to the 
project was abandoned in October 1957. FURTHER READING: BOOKS: Bennis, Warren G., and Patricia Ward Biederman. Organizing Genius: The Secrets of Creative Collaboration. Reading, MA: Addison-Wesley, 1997. Jenkins, Dennis R. Lockheed Secret Projects: Inside the Skunk Works. St. Paul, MN: MBI Publishing, 2001. Miller, Jay. Lockheed Secret Projects and Patricia Ward Biederman.
 Martin's Skunk Works. North Branch, MN: Specialty Press, 1995. Pace, Steve. Lockheed Skunk Works. Osceola, WI: Motorbooks International, 1992. ELECTRONIC: Lockheed Martin Aeronautics Company. < (April 2, 2003). SEE ALSOF
117A Stealth FighterPhotography, High-AltitudeSR-71 BlackbirdU-2 Spy PlaneVietnam War At Lockheed Martin Skunk Works®, your mission defines our purpose. Our team of dedicated engineers and scientists assume it can be done. With a visionary focus on the future, we partner with our customers to anticipate tomorrow's capability gaps and
technology needs to solve the most critical national security challenges today. With our enduring legacy, unique culture and way of operating, Skunks move quickly to develop disruptive solutions in core capability icons below. As the
threat evolves to a highly contested environment, a survivable and persistent ISR system is needed to provide lifesaving intelligence for the warfighter. We're working on solutions that combine stealth technologies that connect,
share and learn to create a holistic network across the battlespace. From the depths of sea to the far reaches of space, our engineers' extensive expertise in advanced technology solutions will power the joint all-domain battlespace. Learn More We are proud to support the DoD and warfighters in developing rapid and cost effective hypersonic
solutions. Our robust experience in high-speed flight is the foundation on which we are developing cutting edge technologies to enable hypersonic solutions. Learn More Our team embraces an integrated digital approach to design that reduces cost and accelerates development. From artificial intelligence and networked factories to data analytics and
augmented reality, the digital thread helps our team connect, collaborate and innovate with agility. Learn More 85% of the work we do is classified and executed in secrecy to protect our national security and ensure our armed forces maintain an edge over any threat. We embrace new approaches and techniques to enhance efficiency while adhering
to our tried-and-true way of operating. Digital Transformation methodologies and advanced digitally enabled technologies allows us to deliver holistic integrated solutions faster and more effectively, ensuring that we do. In today's contested
battlespace, our operators need to get closer to the fight. We're advancing next generation air mobility through investment in connected and survivable tanking solutions that provide the reliability and versatility operators have come to expect. At Lockheed Martin Skunk Works, nothing is impossible. Our scientists and engineers tackle some of the
world's hardest problems every day to pioneer radical approaches to groundbreaking advanced technology concepts. The Lockheed Skunk Works, a legendary division of Lockheed Martin, has been at the forefront of innovative aircraft design and development for over seven decades. Located in Palmdale, California, the Skunk Works facility has been
the birthplace of some of the most iconic and secretive aircraft in history, including the U-2, SR-71 Blackbird, and F-117 Nighthawk. The facility's address is 1011 Airway Avenue, Palmdale, CA 93550, and it is situated within the Antelope Valley, approximately 60 miles north of Los Angeles. Established in 1943 by Clarence "Kelly" Johnson, the Skunk
Works has a rich history of pushing the boundaries of aerospace engineering and design. The name "Skunk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" originated from the comic strip "Li'l Abner" by Al Capp, where a mysterious and secretive facility called the "Skonk Works" or a strip the comic st
adopted the name as a nickname for his team, which eventually became the official name of the division. History and Significance of the Skunk Works Location The Skunk Works location in Palmdale, California, has played a crucial role in the development of the United States' military aviation capabilities. The facility's proximity to the Mojave Desert
and the dry lake beds of Edwards Air Force Base made it an ideal location for testing and developing experimental aircraft. The Skunk Works team, led by Johnson and later by Ben Rich, developed a reputation for innovative design, rapid prototyping, and secrecy, which allowed them to work on classified projects with minimal interference from
outsiders. Skunk Works Facility Layout and Security The Skunk Works facility is a secure and heavily guarded complex, with multiple layers of access control and surveillance. The facility is divided into different areas
each with its own level of access control, to ensure that sensitive information and projects are protected. The facility also features advanced security systems, including biometric authentication, motion detectors, and CCTV cameras, to prevent unauthorized access and protect sensitive information. Facility FeatureDescription Location1011 Airway
Avenue, Palmdale, CA 93550 SizeApproximately 1.5 million square feet SecurityMultilayered access control, biometric authentication, motion detectors, and CCTV cameras Testing FacilitiesWind tunnels, radar testing facilities, and flight test ranges.
that have defined the division's history. As a hub for advanced aircraft design and development, the facility continues to play a critical role in the development of the United States' military aviation capabilities. The Lockheed Skunk Works is located in Palmdale, California, at 1011 Airway Avenue. The facility has a rich history of innovative aircraft
design and development, dating back to 1943. The Skunk Works team has developed some of the most iconic and secretive aircraft in history, including the U-2, SR-71 Blackbird, and F-117 Nighthawk. The facility is a secure and heavily guarded complex, with multiple layers of access control and surveillance. The Skunk Works continues to play a
critical role in the development of the United States' military aviation capabilities. Current Projects and Future Developments While the Skunk Works is known for its secrecy, there are indications that the division is working on several advanced aircraft projects, including the development of hypersonic aircraft and next-generation stealth technology.
 The Skunk Works has also been involved in the development of unmanned aerial vehicles (UAVs) and autonomous systems, which are expected to play a critical role in future military operations. In recent years, the Skunk Works has also been investing in advanced materials and manufacturing technologies, such as 3D printing and advanced materials and manufacturing technologies.
composites, to reduce the weight and increase the performance of its aircraft. The division has also been exploring the use of artificial intelligence (AI) and machine learning (ML) to enhance the capabilities of its aircraft and improve their maintenance and support. Challenges and Opportunities Despite its successes, the Skunk Works faces several
challenges, including the increasing complexity and cost of advanced aircraft development, as well as the need to balance secrecy with the need for collaboration, which is increasingly focused on unmanned systems, cyber warfare, and electronic
warfare. However, the Skunk Works is well-positioned to address these challenges, given its history of innovation and its commitment to pushing the boundaries of aerospace engineering and design. As the division continues to develop new technologies and capabilities, it is likely to remain at the forefront of military aviation, driving innovation and
advancing the state of the art in aircraft design and development. The address of the Lockheed Skunk Works facility is 1011 Airway Avenue, Palmdale, CA 93550. The Skunk Works was established in 1943 by Clarence "Kelly" Johnson and has a rich history of innovative aircraft design and development. The Skunk Works has developed some of the
most iconic and secretive aircraft in history, including the U-2, SR-71 Blackbird, and F-117 Nighthawk. Missions Impossible: The Skunk Works Story On paper, the specifications read like works of pure fantasy: a spy plane capable of taking crystal-clear photographs from 70,000 feet. A Mach-3 aircraft that could fly continuously for hours on end and
literally outrun missiles. An attack aircraft that rendered itself invisible to enemy radar. But Lockheed's chief engineer, Clarence "Kelly" Johnson, simply fielded all requests and relayed to his handpicked band of Skunk Works employees what needed to be done. And then they would deliver. Impossible missions always were, and continue to be, their
particular area of expertise. Conceived in 1943, the Skunk Works division—a name inspired by a mysterious locale from the comic strip Li'L Abner—was formed by Johnson to build America's first jet fighter. German jets had appeared over Europe. Uncle Sam needed a counterpunch, and Johnson got a call. As with virtually all Skunk Works projects
that followed, the mission was secretive and the deadline was remarkably tight. Johnson promised the Pentagon they'd have their first prototype in 150 days. His engineers turned one out in 143 days, creating the P-80 Shooting Star, a sleek, lightning-fast fighter that went on to win history's first jet-versus-jet dogfight over Korea in 1950. Just four
years later, amidst growing fears over a potential Soviet missile attack on the United States, Skunk Works engineers—who often worked ten hours a day, six days a week—created the U-2, the world's first dedicated spy plane. It cruised at 70,000 feet, snapping aerial photographs of Soviet installations. This vital reconnaissance, unobtainable by other
means, averted a war in Europe and a nuclear crisis in Cuba. But high altitude was not enough. By 1960, Soviet radar and surface-to-air missile technology had caught up with the U-2. President Eisenhower needed something quicker, stronger, and more elusive. Using sheets of titanium coated with heat-dissipating black paint, engineers created the
SR-71 Blackbird. On July 3, 1963, the plane reached a sustained speed of Mach 3 at an astounding 78,000 feet, and remains the world's fastest and highest-flying manned aircraft. Though lightning-fast, the Blackbird was not invisible. By 1973, Pentagon officials were calling for the creation of an attack aircraft that could fly undetected past enemy
radar. Building on obscure research that showed radar beams could be diverted by angled triangular panels, the Skunk Works team designed the F-117 Nighthawk. Unusual looking and aerodynamically challenged, the Nighthawk wasn't pretty, but it did what no aircraft had done before. Slipping past Iraqi radar on the morning of January 17, 1991,
Lockheed's Nighthawk bombed thirty-seven critical targets across Baghdad, a surgical strike that led, in just forty-three days, to the successful conclusion of Operation Desert Storm. Over the years, the Skunk Works division in Palmdale, California, was given a more official moniker, Lockheed's Advanced Development Programs, but its mission
remained unchanged: build the world's most experimental aircraft and breakthrough technologies in abject secrecy at a pace impossible to rival. The essential spirit of the division was captured perfectly on July 15, 1955, in an entry from Kelly Johnson's logbook, after a frantic race to ready the U-2 for its inaugural test flight: "Airplane essentially
completed. Terrifically long hours. Everybody almost dead." A total of six Collier trophies, the most prestigious award in the aeronautics industry, have been collected by the Skunk Works' program manager aptly stated, "The
problem with Skunk Works' programs is that they typically get credit for changing history long after they actually change history." Sources and Further Reading Boyne, Walter. Beyond the Horizons: The Lockheed Story. New York: St. Martin's Griffin, 1999. Garrison, Peter. "Head Skunk." Air & Space, March 2010. Lockheed Martin. "Collier
Trophies." accessed August 1, 2012.
```